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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,217	02/17/2004	Seong-Tack Hwang	5000-1-540	9462
33942	7590	10/11/2005	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			DIACOU, ARI M	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*Mc*

**Office Action Summary**

Application No.

10/780,217

Applicant(s)

HWANG ET AL.

Examiner

Ari M. Diacou

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12-20-2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being anticipated by Lutz et al. (USPP No. 2001/00121147) in view of Ajima (USPP No. 2001/0046364).

- Regarding claim 1, Lutz discloses A broadband light source having a dual port structure, the broadband light source comprising:
  - a gain medium having two terminals, [Fig. 1, #1] [¶ 0028 - ¶ 0030]
  - the gain medium being pumped by inputted pump light for outputting amplified spontaneous emission (ASE) light through both terminals; [Fig. 1, #1] [¶ 0028 - ¶ 0030]
  - first and second output terminals leading to an exterior of the broadband light source; and [Fig. 1, #3 and #15] [¶ 0028 - ¶ 0030]
  - a pumping section for the pumping of the gain medium, [Fig. 1, #9 or #15] [¶ 0028 - ¶ 0030]

But fails to disclose:

- wherein the broadband light source outputs the ASE light through said both terminals, through said first and second output terminals, and out to said exterior.

Ajima teaches a broadband amplified spontaneous emission light source with an isolator pointed away from the EDF. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to place an isolator away from the EDF in order to create an ASE light source.

- Regarding claim 2, Lutz discloses the broadband light source as claimed in claim 1, wherein the pumping section includes:
  - a pump light source for outputting pump light having a predetermined wavelength; and [Fig. 1, #15] [¶ 0028 - ¶ 0030]
  - a wavelength-selective coupler (WSC) for outputting inputted pump light to the gain medium, wherein the gain medium is pumped in a reverse direction by the pump light. [Fig. 1, #11] [¶ 0028 - ¶ 0030]
- Regarding claim 3, Lutz discloses the broadband light source as claimed in claim 2, wherein the pumping section includes:
  - another pump light source for outputting pump light having a predetermined wavelength; [Fig. 1, #9] [¶ 0028 - ¶ 0030]
  - and another wavelength-selective coupler (WSC) for outputting inputted pump light to the gain medium, wherein the gain medium is pumped in a forward direction by the pump light. [Fig. 1, #7] [¶ 0028 - ¶ 0030]
- Regarding claim 4, Lutz discloses the broadband light source as claimed in claim 1, wherein the pumping section includes:
  - a pump light source for outputting pump light having a predetermined wavelength; [Fig. 1, #9] [¶ 0028 - ¶ 0030]
  - and a wavelength-selective coupler (WSC) for outputting inputted pump light to the gain medium, wherein the gain medium is pumped in a forward direction by the pump light. [Fig. 1, #7] [¶ 0028 - ¶ 0030]

- Regarding claim 5, Lutz discloses the broadband light source as claimed in claim 1, wherein the pumping section includes:
  - a first pump light source for outputting first pump light having a predetermined wavelength; [Fig. 1, #9] [¶ 0028 - ¶ 0030]
  - a first wavelength-selective coupler (WSC) for outputting inputted first pump light to the gain medium; [Fig. 1, #7] [¶ 0028 - ¶ 0030]
  - a second pump light source for outputting second pump light having a predetermined wavelength; [Fig. 1, #15] [¶ 0028 - ¶ 0030]
  - and a second WSC for outputting inputted second pump light to the gain medium, the pumping section being configured such that the gain medium is pumped in opposite directions by the first and second pump lights, respectively. [Fig. 1, #11] [¶ 0028 - ¶ 0030]
- Claim 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz as applied to claim 1 and claim 11 respectively above, and further in view of Huang et al. (USP No. 6263003). Lutz discloses the invention with all the limitations of claim 1 including the use of two isolators [Fig. 1, #5 and #13] arranged with their transmittance vectors parallel to each other, but fails to disclose having the isolators point antiparallel to each other. Huang teaches that an amplifier can be used as a source if one removes the input [Col. 3, lines 55-65]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to create an optical

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amplifier with two isolators pointing antiparallel to each other and away from the EDF, for the advantage of creating an ASE light source.

- Regarding claim 7, Lutz discloses the broadband light source as claimed in claim 1, further comprising;
  - a first connector located at said first output terminal of the broadband light source and having a first optical fiber formed with a tip portion inclined in such a manner that an amount of light inputted into the gain medium after reflecting from the inclined tip portion is decreased; [Fig. 1, #15] [¶ 0028 - ¶ 0030] [Inherent. Reflection, and therefore a decrease in transmittance always occurs at every point of every tenable optical device, but especially occurs at interfaces between distinct integrally formed optical devices.]
  - and a second connector located at said second output terminal of the broadband light source and having a second optical fiber formed with a tip portion inclined in such a manner that an amount of light inputted into the gain medium after reflecting from the inclined tip portion of the second optical fiber is decreased. [Fig. 1, #3] [¶ 0028 - ¶ 0030] [Inherent. Reflection, and therefore a decrease in transmittance always occurs at every point of every tenable optical device, but especially occurs at interfaces between distinct integrally formed optical devices.]
- Regarding claim 8, Lutz discloses the broadband light source as claimed in claim 1, wherein the gain medium includes a rare-earth element doped optical fiber. [Fig. 1, #1] [¶ 0028 - ¶ 0030]

- Regarding claim 9, Lutz discloses the broadband light source as claimed in claim 1, wherein the pumping section includes:
  - a pump light source for outputting pump light having a predetermined wavelength; and a wavelength-selective coupler (WSC) for outputting, in a given direction, inputted pump light to the gain medium, the gain medium outputting light in a direction reverse to said given direction. [Fig. 1, #11] [¶ 0028 - ¶ 0030]
- Regarding claim 10, Lutz discloses the broadband light source as claimed in claim 1, wherein the pumping section includes:
  - a pump light source for outputting pump light having a predetermined wavelength; and [Fig. 1, #9] [¶ 0028 - ¶ 0030]
  - a wavelength-selective coupler (WSC) for outputting, in a given direction, inputted pump light to the gain medium, the gain medium outputting light in said given direction. [Fig. 1, #7] [¶ 0028 - ¶ 0030]
- Regarding claims 11-15 and 17-20, the methods claimed are merely the normal method of operation of the device disclosed in claims 1-5 and 7-10.

5. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

### ***Conclusion***



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6. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

7. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMD 9-21-2005

Mark Hellner

Primary Examiner

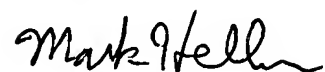
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Mark Hellner  
Primary Examiner  
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A handwritten signature in black ink, appearing to read "Mark Hellner". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.